

AEDC

Arnold Engineering Development Center
Arnold Air Force Base, Tenn. 37389

An Air Force Materiel Command Test Facility

Test Before Flight



12V Space Chamber

The 12V Chamber is a 12-foot-diameter by 35-foot-high thermal vacuum test facility with solar simulation capability. The facility contains a full liquid nitrogen thermal shroud and has an optional gaseous helium inner liner that can be cooled down to 10 Kelvin. The solar simulator is an off-axis system with xenon arc lamps that uses integrating assemblies to collimate a uniform, 1-solar constant beam over an 8-foot diameter by 8-foot-high test volume.

Capabilities:

Thermal Control	Chamber is completely lined with a liquid nitrogen shroud that can provide thermal conditions down to 77 Kelvin. Optional 10 degrees Kelvin gaseous helium liner available upon request.
Vacuum Range	$\leq 1 \times 10^{-7}$ Torr (with gaseous helium shroud) to local atmospheric pressure.
Working Volume	12-foot diameter x 35-foot high.
Pumping System	Mechanical roughing pumps, blowers, and single 36-inch diffusion pump, all with cryogenic traps. Upgrade to clean cryogenic high vacuum pumps planned for fiscal year 2000-2001.
Loading	Horizontal: 6-foot manway. Vertical: 10-foot cap at top of chamber.
Cold Wall	Full liquid nitrogen cryogenic shroud. Optional 10 degrees Kelvin gaseous helium liner available upon request.
Special Features	Quartz xenon arc lamp solar simulator system.
Data	All facility data time tagged and archived.
Work Areas	Test customer offices available. Limited hardware storage available.
Solar Simulation	Off-axis system with xenon arc lamps that use an integrating lens assembly to collimate a uniform, 1-solar constant beam over an 8-foot-diameter by 8-foot-high test volume.
Contact	Bobby W. Smith (931) 454-6519 bobby.w.smith@arnold.af.mil



12V Space Chamber

Photo # 67-163



AEDC Public Affairs • 100 Kindel Drive, Suite B-213 • Arnold AFB, TN 37389-2213
(931) 454-5586 • DSN (931) 340-5586

For information on AEDC visit our Web site at www.arnold.af.mil

Release # 2000-200